IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with <u>underlining</u> and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 1 and 6 in accordance with the following:

1. (currently amended) An animation creating/editing apparatus, comprising:

a three-dimensional model storing unit storing an object configuring an image of an animation as three-dimensional model information, wherein the three-dimensional model information has a tree structure configured by a plurality of hierarchies which represent constraint conditions of the three-dimensional model, and each of the hierarchies are composed of plural nodes which represent position/direction and shapes information of the three-dimensional model;

an operation instruction editing unit creating/editing an operation instructions sequence for creating/editing an animation, wherein the operation instructions sequence comprises object operation instructions and eye point operation instructions;

an interference detecting unit detecting an occurrence of interference between objects based on position/direction and shape information of the three-dimensional model information, which is caused by executing the object operation instruction;

an interference avoiding unit generating an object operation instruction to avoid the interference, if the occurrence of the interference is detected by said interference detecting unit;

a discontinuity detecting unit detecting an occurrence of discontinuous scenes, which are too unnaturally discontinuous to reflect a real world change and are caused by executing the eye point operation instruction or the object operation instruction; and

a complementary instruction generating unit generating ~~an object operation~~ <u>a move</u> instruction<u> that moves the object or the eye point,</u> ~~or an eye point operation instruction~~to generate a scene which complements between the discontinuous scenes, if the occurrence of the discontinuous scenes <u>caused by a move instruction</u> is detected by said discontinuity detecting unit<u>; and if the occurrence of the discontinuous scenes caused by a first move instruction is detected, the complementary instruction generating unit obtains first and second positions of the object or the eye point immediately before and after a move by the first move instruction, obtains a difference between the first and second positions, and generates a second</u>

move instruction to move the object or the eye point to a middle position between the first and second positions if the obtained difference is larger than a regulation value, where generation of a move instruction by the complementary instruction generating unit is repeated until the obtained difference is equal to or smaller than the regulation value..

2-3. (cancelled)

4. (previously presented) The animation creating/editing apparatus according to claim 1, wherein:

the three-dimensional model information holds a constraint condition between objects which is represented such that a node in a lower hierarchy of the three-dimensional model information is constrained by a node in a higher hierarchy; and

a constraint detecting unit detecting an object operation instruction which violates the constraint condition as an error is further comprised, wherein an unconstrained object is freely moved as far as it does not interfere with another object, and, a constrained object having a predetermined movable range is moved within said movable range as far as it does not interfere with another object.

5. (previously presented) The animation creating/editing apparatus according to claim 1, further comprising:

an editing rule storing unit storing editing rules for editing the object operation instructions sequence when an object operation instruction is inserted/deleted/moved in/from/within the operation instruction sequence, when an animation is edited; and

an operation instruction editing unit referencing the editing rules, and preventing/avoiding an operation if the operation for inserting /deleting/moving an object operation instruction which violates the editing rules in/from/within the operation instruction sequence is performed.

6. (currently amended) A computer readable medium storing a program for causing a computer to execute a process of animation creating/editing, the process comprising:

storing an object configuring an image of an animation as three-dimensional model information in a first storing unit, wherein the three-dimensional model information has a tree structure configured by a plurality of hierarchies which represent constraint conditions of the three-dimensional model, and each of the hierarchies are composed of plural nodes which

represent position/direction and shape information of the three-dimensional model;

creating/editing an animation by creating/editing an operation instruction sequence, wherein the operation instructions sequence comprise object operation instructions and eye point operation instructions;

detecting an occurrence of interference between objects based on position/direction and shape information of the three-dimensional model information, which is caused by executing the object operation instruction;

generating an object operation instruction to avoid the interference, if the occurrence of the interference is detected;

detecting an occurrence of discontinuous scenes, which are too unnaturally discontinuous to reflect a real world change and are caused by executing the eye point operation instruction or the object operation instruction; and

generating ~~an object operation~~ move instruction, that moves the object or the eye point eye point, ~~or an eye point operation instruction~~to generate a scene which complements between the discontinuous scenes, if the occurrence of the discontinuous scenes caused by a move instruction is detected, and if the occurrence of the discontinuous scenes caused by a first move instruction is detected, generation of the move instruction is performed by obtaining first and second positions of the object or the eye point immediately before and after a move by the first move instruction, obtaining a difference between the first and second positions, and generating a second move instruction to move the object or the eye point to a middle position between the first and second positions if the obtained difference is larger than a regulation value, where generation of a move instruction is repeated until the obtained difference is equal to or smaller than the regulation value.

7-8. (cancelled)

9. (previously presented) The computer readable medium according to claim 6, further comprising:

holding a constraint condition between objects in the three-dimensional model information which is represented such that a node in a lower hierarchy of the three-dimensional model information is constrained by a node in a higher hierarchy; and

detecting an object operation instruction which violates the constraint condition as an error, wherein an unconstrained object is freely moved as far as it does not interfere with another object, and, a constrained object having a predetermined movable range is moved within said

Serial No. 10/626,658

movable range as far as it does not interfere with another object.

10. (previously presented) The computer readable medium according to claim 6, further comprising:

storing, in a second storing unit, editing rules for editing the object operation instructions sequence when an object operation instruction is inserted/deleted/moved in/from/within the operation instruction sequence, when an animation is edited, and

referencing the editing rules, and preventing/avoiding an operation if the operation for inserting/deleting/moving an object operation instruction which violates the editing rules in/from/within the operation instruction sequence is performed.

11. (previously presented) The animation creating/editing apparatus according to claim 1, further comprising:

an object operating unit operates an object in a virtual space upon receipt of an input of an object operation instruction from a user, wherein:

the interference detecting unit checks the interference between objects which accompanies the operation;

when the interference occurs, the interference avoiding unit modifies a move direction of an object to a direction where the interference is resolved, so that the interference is avoided;

when the interference cannot be avoided, the object operation instruction becomes an error;

when an object can be moved without causing interference, the object operation instruction is stored in a corresponding instruction sequence within the operation instruction storing unit via the instruction sequence selecting unit; and

the object operating unit performs a constraint deletion operation for an object by an operation for removing an object from a tree to which the object belongs to, and the object is released from the constraint of a parent object.

12. (previously presented) The computer readable medium according to claim 6, further comprising:

operating an object in a virtual space upon receipt of an input of an object operation instruction from a user;

checking the interference between objects which accompanies the operation;

when the interference occurs, modifying a move direction of an object to a direction where the interference is resolved, so that the interference is avoided;

wherein, when the interference cannot be avoided, the object operation instruction becomes an error;

wherein, when an object can be moved without causing interference, the object operation instruction is stored in a corresponding instruction sequence; and

performing a constraint deletion operation for an object by an operation for removing an object from a tree to which the object belongs to, and the object is released from the constraint of a parent object.